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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,045	11/04/2003	Michael G. Adlerstein	RTN2-155PUS	5518
22494	7590	10/20/2004	EXAMINER	
DALY, CROWLEY & MOFFORD, LLP			PRUCHNIC, STANLEY J	
SUITE 101			ART UNIT	
275 TURNPIKE STREET			PAPER NUMBER	
CANTON, MA 02021-2310			2859	

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/701,045

Applicant(s)

ADLERSTEIN, MICHAEL G.

Examiner

Stanley J. Pruchnic, Jr.

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-10 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 11-14 and 18-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/4/03(2 sheets)</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings are informal (e.g., some of the hand-drawn labels are difficult to read) Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- a. On page 2, in the second line of Paragraph labeled [0010], perhaps insert after "circuit 10" the words --is located on-- in order to more clearly describe the invention.
 - b. On page 3, in the second line of Paragraph labeled [0015], perhaps the numeral "12" after "tuning circuit" should be deleted and replaced therefor by the numeral --22-- in order to use consistent notation, correcting an obvious typographical error.
 - c. On page 3, in the first line of Paragraph labeled [0017], perhaps insert the word --is-- before "responsive" in order to more clearly describe the invention.
 - d. On page 4, please use consistent notation, i.e., correct the spelling in the subscripts of each occurrence (in Line 7 and Line 9) of " $P_{rf, tunners}$ " by replacing therefor -- $P_{rf, tuner}$ --.

Appropriate correction is required.

Claim Objections

3. Claims 2, 4, 14 and 15-21 are objected to because of the following informalities:
- In Claim 2, in Line 1, perhaps the word "**an**" after the word "**third**" should be deleted and replaced therefor by the word **--and--** in order to more clearly describe the invention, correcting an obvious spelling error.
 - In Claim 4, in Line 1, perhaps the word "**an**" after the word "**third**" should be deleted and replaced therefor by the word **--and--** in order to more clearly describe the invention, correcting an obvious spelling error.
 - Claim 14 lacks a period (.).
 - Each of Claims 15-21 is a duplicate of respective corresponding Claims 8-14.

Appropriate correction is required.

4. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 is a duplicate of Claim 2, except that it depends from Claim 2.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 7-10 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by US 544219 A (Kelly, Brendan P.).

With respect to Claim 1: KELLY discloses a circuit 100 for determining temperature of an active semiconductor device (power MOSFET 11; Col. 10, Lines 7-38), comprising:

(A) a semiconductor substrate 10 (Col. 4, Lines 45ff) having thereon the active device 11;

(B) a bridge circuit (Col. 7, Line 57) comprising:

(i) a first thermal sensitive device R2 disposed in thermal contact with an electrode of the active device, such first thermal sensitive device having a pair of terminals, a first one of the pair of terminals being connected to a first node (at rail 1; Fig. 4) and a second one of the pair of terminals being connected to a second node (4);

(ii) a second thermal sensitive device R1 disposed in thermal contact with the electrode of the active device, such second thermal sensitive device having a pair of terminals, a first one of the pair of terminals being connected to a third node (5) and a second one of the pair of terminals being connected to a fourth node (at rail 2; Fig. 4);

(iii) a third thermal sensitive device R4 disposed in thermal contact with the substrate, such third thermal sensitive device having a pair of terminals, a first one of the pair of terminals being connected to the second node (4) and a second one of the pair of terminals being connected to the fourth node (at rail 2; Fig. 4);

(iv) a fourth thermal sensitive device R3 disposed in thermal contact with the substrate, such fourth thermal sensitive device having a pair of terminals, a first one of the pair of terminals being connected to the first node (at rail 1; Fig. 4) and a second one of the pair of terminals being connected to the third node (5);

(v) a voltage potential connected between the first node (at rail 1) and the fourth node (at rail 2);

(vi) an output provided by the second node (4) and the third node (5).

With respect to Claim 7: A circuit for determining temperature of an active semiconductor device 11, comprising:

(A) a semiconductor substrate 10 (Col. 4, Lines 45ff) having thereon the active device 11;

(B) a Wheatstone bridge circuit (Col. 7, Line 57) having in each of four branches (Fig. 4) thereof a thermal sensitive device, one pair (R1 and R2) of such thermal sensitive devices being in thermal contact (Fig. 7; at P1) with an electrode of the active device 11.

Regarding Claims 8 and 15: The circuit recited in claim 7 wherein another pair (R3 and R4) of such thermal sensitive devices is in thermal contact with the substrate at position P2.

Regarding Claims 2 and 4: The circuit recited in claim 1 wherein the first, second, third and fourth thermal sensitive devices are resistors.

Regarding Claims 9 and 16: The circuit recited in claim 7 wherein the thermal sensitive devices are resistors.

Regarding Claim 3: The circuit recited in claim 1 wherein the active device is a transistor.

Regarding Claims 10 and 17: The circuit recited in claim 9 wherein the active device is a transistor.

Allowable Subject Matter

7. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

8. Claims 5-6, 11-14 and 18-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: KELLY further discloses a circuit wherein the output provided by the Wheatstone bridge provides a measure of a temperature difference between the temperature of the transistor and an ambient temperature of the substrate. **Regarding Claims 5-6, 11-14 and 18-21:** the art of record does not disclose or fairly suggest the circuit further including a tuning circuit coupled to an output of the transistor, such tuning circuit having a tunable element controlled by a control signal fed to such tunable element as claimed by Applicant in each of **Claims 5, 11 and 18**.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in a form PTO-892 and not mentioned above disclose related temperature measurement devices and methods.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanley J. Pruchnic, Jr., whose telephone number is **(571) 272-2248**. The examiner can normally be reached on weekdays (Monday through Friday) from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached at **(571) 272-2245**.

The **Official FAX** number for Technology Center 2800 is **(703) 872-9306** for **all official communications**.

Any inquiry of a general nature or relating to the status of this application or proceeding may be directed to the official USPTO website at **<http://www.uspto.gov/>** or you may call the **USPTO Call Center** at **800-786-9199** or 703-308-4357. The Technology Center 2800 Customer Service FAX phone number is (703) 872-9317.

The cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources.

Private PAIR provides external customers Internet-based access to patent application status and history information as well as the ability to view the scanned images of each customer's own application file folder(s).

For inquiries relating to Patent e-business products and service applications, you may call the **Patent Electronic Business Center (EBC)** at **703-305-3028** or toll free at **866-217-9197** between the hours of **6 a.m. and midnight Monday through Friday EST**, or by e-mail at: **ebc@uspto.gov**. Additional information is available on the Patent EBC Web site at: **<http://www.uspto.gov/ebc/index.html>**.



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Stanley J. Pruchnic, Jr.
10/18/04

**CHRISTOPHER W. FULTON
PRIMARY EXAMINER**